Choi, Peter H.

From: DeMille, Ginger R. (ASRC)

Sent: Tuesday, November 01, 2005 11:00 AM

To: Choi, Peter H.

Cc: Diaz, Susanna

Subject: 10/007612 - I haven't forgotten you Peter. I'm working on this today. Hope it's not too late. Thank you!

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22/7/5
DIALOG(R)File 63:Transport Res(TRIS)
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00387707 DA
TITLE: COST SAVINGS POTENTIAL FROM IMPROVEMENT IN RAILCAR RELIABILITY AND
MAINTAINABILITY
AUTHOR(S): Muotoh, DU; Elms, CP
CORPORATE SOURCE: Lea (ND) and Associates, Incorporated, Dulles
International Airport, P.O. Box 17030, Washington, DC, 20041,
REPORT NUMBER: UMTA-IT-06-0273-84-1Tech Rpt.
Pag: 74p
SUPPLEMENTAL NOTES: Task 6.
PUBLICATION DATE: 19840400 PUBLICATION YEAR: 1984
LANGUAGE: English SUBFILE: UMTRIS (U 8402)
BIBLIOGRAPHIC/DATA APPENDICES: 3 App.
AVAILABILITY: Urban Mass Transportation Administration; 400 7th Street, SW
; Washington; DC ; 20590
FUNDING TYPE: Contract D
CONTRACT/GRANT NUMBER: TUM60-82-C71122
FIGURES: 12 Fig. TABLES: 10 Tab.
ABSTRACT: Potential benefits from proposed improvement in transit equipment
performance must be quantifiable so that transit managers and other
decision-makers can justify expenditures incurred on such improvement
programs. This report presents a mathematical tool that will permit the
estimation of cost savings potential from improvements in railcar
reliability and maintainability. Rail transit improvements are
expressed in terms of two major performance indicators--Mean Time
Between Failures and Mean Time To Restore a Car to Service Condition.
The tool is designed to estimate potential benefits (in dollars)
achievable through improvements. It does not address the costs incurred
or the actual mechanism for realizing these improvements. Various
models for estimating operating, maintenance, and fleet cost savings
have been developed. These are then calibrated using data from the
Washington Metropolitan Area Transit Authority. Also presented are
example application of the models in either areas including cost
savings from subsystem improvements and life cycle cost comparisons for
making decisions to rebuild or buy new cars . While the models have
been developed on the basis of performance related to unscheduled
maintenance, they can be extended to include scheduled maintenance. It
is cautioned that the results from the calibrated models should not be
extrapolated to other transit authorities without a close examination
for conformity. Althouth the models have been developed for rail
transit, they can be adapted for use in the bus industry, for automated
small vehicle systems, or for other types of transit systems.
SUBJECT HEADING: U13,RAIL VEHICLE TECHNOLOGY


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00479322 DA
TITLE: USE OF LIFE-CYCLE COST ANALYSIS IN TRANSIT CAPITAL OVERHAUL/REPLACE
DECISIONS--AN APPLICATION TO THE PATH RAILCAR FLEET
AUTHOR(S): Schaevitz, R
CORPORATE SOURCE: Transportation Research Board, 2101 Constitution Avenue,
NW , Washington, DC, 20418,
JOURNAL: Transportation Research Record Issue Number: 1165 Pag: pp
11-18
SUPPLEMENTAL NOTES: This paper appears in Transportation Research Record
No. 1165, Transit Management and Replacement Capital Planning.
PUBLICATION DATE: 19880000 PUBLICATION YEAR: 1988
LANGUAGE: English SUBFILE: UMTRIS (U 8801)
ISSN: 03611981 ISBN: 0-309-04706-4
AVAILABILITY: Transportation Research Board Business Office; 2101
Constitution Avenue, NW ; Washington; DC ; 20418
TABLES: 8 Tab.
REFERENCES: 6 Ref.
ABSTRACT: As fleets of rail cars age and become increasingly costly to
maintain, two options are available to transit properties: conduct a
major overhaul or replace with new cars. In a 1984 study for the Port
Authority (of New York and New Jersey) Trans-Hudson Corporation (PATH),
an in-depth engineering evaluation and life-cycle cost analysis was
conducted for a portion of the PATH fleet . Ten- and twenty-year
overhaul programs for existing cars were compared with a new car
purchase in a life-cycle cost framework. The results of the analysis
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showed the new car purchase option to be most cost-effective under most combinations of assumptions on future conditions. PATH subsequently made a decision to buy new cars , and these are now in operation. Described in more detail in this paper is the analysis conducted for PATH, including cost estimate procedures, inflation and discount rate assumptions, and methods for estimating residual value. The results of extensive sensitivity testing are discussed, including the issue of what can and cannot be generalized to other studies. Use of life-cycle cost analysis was found to be effective and useful in this application and was seriously considered by PATH and Port Authority management in their decision making. Applications to other systems should be encouraged. These will be enhanced through further research and development of methodologies for estimating operating and maintenance costs .
SUBJECT HEADING: H11,ADMINISTRATION; U22,TRANSIT MAINTENANCE MANAGEMENT
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